"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ASMAYEV, I.G.; YUNOSHEV, V.K.

Formation of the color of tobacco leaves during drying. Izv. vys. ucheb. zav.; pishch. tekh. no.1:59-64 '58. (MIRA 11:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra tekhnologii tabaka.

(Tobacco—Drying) (Phenols)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEV, V.K.

Formation of color in tobacco leaves. Trudy KIPP no.19:7-22 '58. (MIRA 12:3)

1. Kafedra tekhnologii tabaka Krasnodarskogo instituta pishchevoy promyshlennosti.

(Tobacco)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEV, V.K.

Effect of polyphenols on changes in the color of tobacco. Trudy KIPP no.19:23-39 '59. (MIRA 12:3)

1. Kafedra tekhnologii tabaka Krasnodarskogo instituta pishchevoy promyshlennosti.

(Phenols) (Tobacco)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEV, V.K.

Quantitative changes of oxidized polyphenols in the process of the fermentation of tobacco. Izv. vys. ucheb. zav.; pishch. tekh. no.2:79-84 '60. (MIRA 14:7)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra tekhnologii tabaka.

(Tobacco—Analysys and chemistry)
(Phenols)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEV, V.K.

Development of oxidation processes during the fermentation of tobacco. Izv.vys.ucheb.zav.;pishch.tekh.no.5:91-96 '60. (MIRA 13:12)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra organicheskoy i analiticheskoy khimii.
(Tobacco) (Fermentation)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEV, V.K.

Quantitative changes of chlorogenic and caffeic acids in the fermentation of tobacco. Izv. vys. ucheb. zav.; pishch. tekh. no.4:44-50 '61. (MIRA 14:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra neorganicheskoy i analiticheskoy khimii.
(Chlorogenic acid) (Caffeic acids) (Tobacco--Analysis and Chemistry)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSHEVA, T. I.

KRAVETS, N.P.; YUNOSHEVA, T.I., zaveduyushchiy stantsiyey.

Effect of oxygen upon gastric secretion, morphological blood composition, blood pressure, respiration, and pulse. Med.paraz.i paraz.bol. no.3:257-260 My-Je '53. (MLRA 6:8)

1. Stanislavskaya oblastnaya protivomalyariynaya stantsiya.
(Oxygen--Physiological effect) (Stomach--Secretions) (Blood)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSOV, F.S., kand. tekhn. nauk, dotsent

Theoretical investigation of the process of line grinding.
Izv. vys. ucheb. zav.; mashinostr. no.3:61-70 '65.

1. Kazanskiy aviatsionnyy institut.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUGANSON, E.Yu., kand.tekhn.nauk; YUNOSOV, R.O., inzh.

Submerged-melt build-up welding of the beaters of impact mills in the Estonian Power System. Elek. sta. 34 no.11:20-23 N '63. (MIRA 17:2)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOSOVA, A. N.

USSR/Human and Animal Physiology - Blood Circulation. R-5

Abs Jour : Referat Zhur - Biologii, No 16, 1957, 70666

Author : Yunosova, A.N.
Inst :
Title : The Influence of Vitamin C and B_1 on the Functional State of Extracardial Nerves of Dog Hearts, After Thyroid Extirpation.

Orig Pub : Introductory report. Sb. nauch. rabot Kasansk, med. in-ta, 1957, vyp., 1, 105-110

Abstract : No abstract.

Card 1/1 - 125 -

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOV, A.Yu.

Tetonic structure of the northwestern part of the southern Caspian Depression. Dokl. AN Azerb. SSR 16 no. 6:565-569 '60. (MIRA 13:10)

1. Institut geologii AN Azerbaydzhanskoy SSR. Predstavleno akademikom AN Azerbaydzhanskoy SSR M.-A.Kashkayem.
(Caspian Depression--Geology, Structural)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOV, A.Yu.

Tectonic pattern of the northern part of the southern Caspian Lowland and its oil and gas potentials. Trudy MINKH1GP no.27:160-167 '60. (MIRA 13:9)

(Caspian Lowland--Petroleum geology)
(Caspian Lowland--Gas, Natural--Geology)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOV, A. Yu., Cand Geol-Min Sci -- "Tectonics of the southern Caspian Depression ~~a region~~ and its ~~oil-~~ petroleum and gas-bearing ~~capacity~~ prospects." Mos, 1961. (Acad Sci USSR. Inst of Geol and ~~Devel~~ Working of Combust ~~Min~~ Mineral) (KL, 8-61, 235)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

SOLOV'YEV, V.F.; MAYEV, Ye.G.; YUNOV, A.Yu.

Manifestations of mud volcanism in the deep section of the southern Caspian. Dokl. AN SSSR 140 no.5:1163-1166 O '61. (MIRA 15:2)

1. Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR. Predstavleno akademikom D.I.Scherbakovym.
(Caspian Sea--Mud volcanoes)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

LUCHITSKIY, I.V., red.; BOGOLEPOV, K.V., red.; KOSYGIN, Yu.A., red.; MUSATOV, D.I., red.; SHLYKOVA, O.P., red.; YUNOV, A.Yu., red.; BUSHUYEVA, V.M., red.; VYALYKH, V.I., tekhn. red.

[Tectonics of Siberia] Tektonika Sibiri. Novosibirsk. Vol.2. [Tectonics of Krasnoyarsk Territory] Tektonika Krasnoiarskogo kraia. 1963. 385 p. (MIRA 17:4)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOV, A.Yu.

Role of the South Aldan re-entering angle and the ancient fault related to it in the development of structures in the southeastern part of the Siberian Platform. Geol. i geofiz. no.12:123-127 '64. (MIRA 18:4)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A.E.

57-8-10/36

AUTHOR Yunovich A.E.

TITLE On Determination of Relaxation Times of Surface States in Germanium. (Ob opredelenii vremen relaksatsii poverkhnostnykh sostoyaniy v germanii - Russian)

PERIODICAL Zhurnal Tekhn.Fiz., 1957, Vol 27, Nr 8, pp 1707-1712 (U.S.S.R.)

ABSTRACT A method for the investigation 1) of the influence of external electric fields on the electric conductivity of semiconductors, and 2) of the dependence of this effect on the frequency, is described. This method is based on the measurement of the constant voltage component at the sample which develops under the influence of the electric transverse field with the same frequency as that with a.c. flowing through the sample. The results of measurement of the field effect within the frequency range of $4 \cdot 10^2 \div 8 \cdot 10^4$ Hz at n Germanium samples prove the great dependence of the relaxation time on the surrounding atmosphere in the case of surface states. The influence of the atmosphere on the magnitude as well as on the sign of the field effect at low frequencies can be explained by the different distortion of the energetic zones on the surface in consequence of adsorption. A moist atmosphere correponds to the electronic conductivity on the surface, while the conductivity of the atmosphere with dry oxygen is put in relation with hole-conductivity. (2 illustrations and 4 Slavic references)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

On Determination of Relaxation Times of Surface States 57-8-10/36

ASSOCIATION Moscow State University, Department of Physics.
(Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tet)
SUBMITTED April 8, 1957
AVAILABLE Library of Congress.
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APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A. E.: Master Phys-Math Sci (diss) -- "Investigation of the surface states in germanium". Moscow, 1958. 9 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov), 110 copies (KL, No 18, 1959, 121)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

24(3)

AUTHORS: Yunovich, A.E., Anokhin, B.G. SOV/155-58-5-30/37

TITLE: Field Effect and Determination of the Energetic Position and of the Concentration of the Surface States in Germanium

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 5, pp 177-182 (USSR)

ABSTRACT: The authors investigated the surface conductivity and the field effect in germanium under variation of the surrounding atmosphere. The dependence of the effective mobility on the surface potential is determined from the results of the experiments. The dependence of the surface states on the surface potential is investigated. A comparison of the experimental results with different models of the surface states shows that only a qualitative determination of the energetic position and of the concentration of the surface level is possible by the experiments carried out. The authors state that the concentration of the surface level is smaller by one order near the center of the prohibited zone than in the upper and lower part of the prohibited zone.

The authors thank Professor S.G. Kalashnikov for valuable

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Field Effect and Determination of the Energetic Position and of the Concentration of the Surface States in Germanium SOV/155-58-5-30/37

suggestions.
There are 17 references, 3 of which are Soviet, 13 American, and 1 German.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: August 4, 1958

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

AUTHOR: Yunovich, A. E. 57-28-4-2/39

TITLE: On the Dependence of the Field Effect in Semiconductors on Frequency (O zavisimosti effekta polya v poluprovodnikakh ot chastoty)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 4, pp. 689-693 (USSR)

ABSTRACT: A simple theoretical approximation is examined here and the problem, what conclusions can be drawn from the measurements of the frequency dependence of the field effect in semiconductors is treated. The kinetics of the filling of the surface levels under conditions of the influence of an external electric alternating field upon the semiconductor is examined. It is assumed that a system of surface-levels which is produced by adsorbed atoms and ions exists at the surface of the oxide-film of semiconductors. It is assumed that these levels cause the distortion of the energetic zones near the surface, but that they have no influence upon the kinetics of the fast processes (below $\sim 10^{-3}$ sec). I.e. that the relaxation time of the external surface levels is many times higher than that of the internal ones and that the thickness of the oxide film as

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compared to the screening length in the film is small. It is further assumed that at the separating surface of oxide and semiconductor a type of state with the energy E_t and concentration N_t cm^{-2} exists. Thus an electron-semiconductor in which the hole-concentration as compared to the electron-concentration can be disregarded ($n \gg p$) is examined. The zone distortion is assumed in a manner that the hole-concentration can also be disregarded at the surface. The semiconductor-surface is a coat of the condenser on whose metallic plates the charge $\delta Q = \delta Q_0 e^{i\omega t}$ (per 1 cm^2) is produced. The modification of the electric conductivity of the semiconductor in dependence on the frequency of field-modification is computed for the case where the charge carriers with one sign predominate and where a weak disturbance of equilibrium exists. The equation (13) derived here shows that under the conditions given here, in spite of the disturbance of equilibrium, Boltzmann's equation can be used for the electron-concentration. It is shown that in the case of the application of an external field the potential-modification must be many times smaller than kT/q. (k - Boltzmann's constant, T - the absolute temperature, q - charge of an electron). On the other

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hand the modification of the field at the surface is only dependent on the modification of potential. The equation (16) for the modification of the entire negative electron-charge δQ_n is obtained. The investigations showed that such an investigation of the frequency-dependence of the field effect can give important information about the properties of the semiconductor-surface. From the field-effect-measurements at high frequency the average mobility $\mu_{average}$ of the space charge in the layer can be determined. From the shape of the frequency-dependence of the μ_{effect} the relaxation-time τ_n can be determined. From this, in case that the surface-potential Y and the energetic position of the traps are known, the capture cross-section of the electrons by the traps can be determined.

Professor S.G. Kalashnikov gave valuable advices to the author. There are 2 figures and 8 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova, Fizicheskiy fakul'tet (Moscow State University imeni

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A.E.

Kinetics of electron exchange between surface and volume in germanium. Fiz. tver. tela 1 no.6:908-912 Je '59. (MIRA 12:10)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova, Fizicheskiy fakul'tet, Kafedra fiziki poluprovodnikov.
(Germanium) (Electrons)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

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SOV/181-1-7-12/21

~~24(6)~~ 24.7700

AUTHOR: Yunovich, A. E.

TITLE: On the Dependence of the Field Effect in Semiconductors on Frequency. II

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 7, pp 1092-1101 (USSR)

ABSTRACT: Assuming that current supporters of both signs are present in a semiconductor and on its surface, the dependence of the field effect on frequency is theoretically investigated as well as especially the change of conductivity caused by the influence of an external transversal electric field. A slight disturbance of equilibrium is assumed for which the surface recombination prevails the volume recombination. Besides, the presence of surface states of one type of current supporters is assumed. The solution of the problem was obtained by the following procedure: Formation and solution of Poisson equation; interpretation of the Fermi quasi-level; representation of the conductivity by a Fermi quasi-level; determination of the dependence of the effective mobility on frequency. Investigation results reveal a determination of the dependence of the field effect on frequency by certain eigen-times. The expression found for the effective

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On the Dependence of the Field Effect in Semiconductors on Frequency. II

mobility may be used for the proper semiconductors as well as for alloyed semiconductors. It was possible to show that the neglect of secondary supporters in the volume and on the surface of the semiconductor is correct, if the concentration of the supporters is low and if the electronic exchange between the locations of defect and the zones of secondary supporters is lower than between the locations of defect and the zones of the main supporters. The results of the present investigation were discussed with Professor S. G. Kalashnikov. Experiments made by V. L. Bonch-Bruyevich are especially mentioned. There are 1 figure and 14 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Fizicheskiy fakul'tet, Kafedra fiziki poluprovodnikov (Moscow State University, Physics Department, Chair of Physics of Semiconductors)

SUBMITTED: May 10, 1958

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

FRUMKIN, A.N., akademik, otv. red.; RZHANOV, A.V., otv. red.; BURSHTEYN, R.Kh., doktor khim. nauk, otv. red.; YUNOVICH, A.E., red. izd-va; TIKHOMIROVA, S.G., tekhn. red.

[Surface characteristics of semiconductors]Poverkhnostnye svoistva poluprovodnikov. Moskva, Izd-vo Akad. nauk SSSR, 1962. 231 p. (MIRA 15:12)

1. Soveshchaniye po poverkhnostnym svoistvam poluprovodnikov, Moscow, 1961. 2. Chlen-korrespondent Akademii nauk SSSR (for Rzhanov).
(Germanium—Electric properties) (Transistors)
(Selenium—Electric properties)

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AUTHOR: [illegible]

TITLE: [illegible]

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ACCESSION NR: AT 3002448

growing field amplitude at 50-2 x 10^4 cps is analyzed [illegible] band distortion upon the relaxation time; [illegible] method includes measuring both the real and the imaginary components is useful; (2) Majority carriers [illegible] approximately play the investigated phenomena; (4) [illegible] responsible for the ejection of [illegible] conduction band; (5) Concentration [illegible] "The authors are sincerely thankful to Prof. [illegible] in the work and discussing the results [illegible]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet [illegible] Moscow State University

SUBMITTED: [illegible] DATE ACQ: [illegible]

SUB CODE: [illegible] NO REF SOV: [illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4039689 S/0181/64/006/006/1900/1902

AUTHOR: Yunovich, A. E.; Yeliseyev, P. G.; Nakhodnova, I. A.; Ormont, A. B.; Osadchaya, L. A.; Stuchebnikov, V. M.

TITLE: Radiative recombination in Zn-diffused GaAs p-n junctions

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1900-1902

TOPIC TAGS: recombination radiation, radiative recombination, electroluminescence, p n junction, GaAs laser, GaAs diode, semiconductor laser, laser, junction laser, injection laser

ABSTRACT: Recombination radiation from Be-doped GaAs p-n junctions was investigated with a view toward possible laser application of Be-doped GaAs injection diodes. The GaAs with a carrier concentration between $5 \cdot 10^{17}$ and 10^{18} cm^{-3} was diffused with Be in vacuum at 950C. The junction was about $3 \cdot 10^{-3}$ cm^2. In one of the diodes the junction was 30 μ deep. Two parallel planes were cleaved perpendicular to the junction. The recombination radiation spectra were obtained by injecting carriers with current pulses up to 100 amp. The pulse duration was 1.2 μsec and the repetition rate was 50 cps.

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4039689

The recombination spectra at 77K show that the intensity of emission is very similar to that of Zn-doped GaAs diodes. The maximum occurs at 1.47 ev. The line width at half maximum and at a current density of $2.8 \cdot 10^3$ amp/cm^2 was 0.014 ev. Some narrowing and nonlinear increase of intensity were observed at high current densities. Analysis of current-voltage characteristics and recombination spectra shows that Be is an acceptor impurity. The maximum solubility of Be in GaAs was found to be greater than 10^{18} cm^{-3}. Radiative recombination in Be-doped GaAs has a higher degree of probability than in GaAs doped with Zn. Assuming that radiative recombination in Zn-doped GaAs is due to transitions between the conduction band and the acceptor levels, the energy level formed by Be is close to that of Zn in GaAs. The narrowing of the line was believed to be caused by stimulated emission, which fact would indicate the possibility of obtaining laser action in degenerate GaAs doped with Be. Orig. art. has: 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4039689

SUBMITTED: 20Jan63 ATD PRESS: 3059 ENCL: 00

SUB CODE: SS NO REF SOV: 002 OTHER: 006

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4039693 S/0181/64/006/006/1908/1910

AUTHOR: Yunovich, A. E.; Yeliseyev, P. G.; Ormont, A. B.; Osadchaya, L. A.; Stuchebnikov, V. M.

TITLE: Structure of coherent radiation spectra from GaAs p-n junctions

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1908-1910

TOPIC TAGS: GaAs laser, semiconductor laser, laser, junction laser, injection laser, coherent emission, coherent emission spectrum

ABSTRACT: The structure of recombination radiation emitted by GaAs p-n junction lasers operating at 77K was investigated. The diodes were fabricated by diffusion of zinc into GaAs wafers. The carrier concentration of GaAs was about $7 \cdot 10^{17}$ cm^{-3}. The carriers were injected by applying current pulses of 8 to 100 amp. The duration of the pulses and the repetition rate were 1.2 μsec and 50 cps, respectively. For different diodes the threshold current density varied between $2.6 \cdot 10^3$ and $11 \cdot 10^3$ amp/cm^3. One to three lines, about 2 Å or less wide, appeared near the main emission peak at the threshold current.

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ACCESSION NR: AP4039693

As the current density was increased, the number of peaks (all of which appeared in a longwave part of the spectrum 7—35 Å wide) increased to 10—15, and the main peak was shifted into this spectral region. Some overlapping of neighboring lines was observed. The line width at half maximum varied from less than 1 A to 2.5 A. The separation between the majority of the adjacent peaks was 3.5 ±0.7 Å. The intensity of the main peak was highest for diodes with the smallest number of maxima and the least shifting. In such diodes the series resistance determined from the current-voltage characteristics was slightly lower than in other diodes. Such lasers were also characterized by a sudden increase of current at a voltage of about 1.47, and by a thinner p-n transition region. The structure of the emission spectra was explained on the basis of an earlier paper (P. P. Sorokin, J. D. Axe, J. R. Lankard. J. Appl. Phys., 34, 2553, 1963) in which it was shown that spectral components of continuously emitting GaAs lasers correspond to different cavity modes. It was calculated that the diode temperature increased by 5—15K during the duration of the pulse. This was in agreement with the experimentally observed temperature variation. Orig. art. has: 2 figures.

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4039693

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 03Feb64 ATD PRESS: 3059 ENCL: 00

SUB CODE: SS NO REF SOV: 001 OTHER: 008

Card 3/3

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4043356 S/0181/64/006/008/2369/2375

AUTHORS: Yunovich, A. E.; Talat, G. Kh.

TITLE: On the kinetics of the field effect on the surface of silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2369-2375

TOPIC TAGS: silicon junction, temperature dependence, semiconductor surface, capture cross section, relaxation time

ABSTRACT: The purpose of the investigation was to check experimentally on the applicability of the theory of A. E. Yunovich (Collection "Poverkhnostny*ye svoystva poluprovodnikov" [Surface Properties of Semiconductors], AN SSSR, Moscow, p. 127, 1962) to surface phenomena on high-resistivity p-type silicon. The preparation of the samples and the test procedure is described. Measurements of the temperature dependence of the field effect has shown

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ACCESSION NR: AP4043356

that in the temperature range 230--300K this dependence agrees with the theoretical assumption that there is only one surface level and large changes in the surface potential. It is shown that a comparison of the experimental data with the theory makes it possible to calculate the concentration of the surface states, their energy, and the hole-capture cross section. The results are analyzed with the aid of a theory that takes into account large changes in the surface potential and electron exchange between the majority carriers and one surface level. In the particular p-type silicon surface investigated, the surface states were found to have an energy $E_t - E_v = 0.78$ eV, a concentration $\sim 4 \times 10^{11}$ cm^{-2}, and a hole-capture cross section $\sim 3 \times 10^{11}$ cm^2. The deviation observed below 230K in the simple dependence of the relaxation time on the temperature can be related with the interaction between the holes and other surface levels. "The authors are grateful to Professor V. S. Vavilov for interest in the work and for a discussion of the results." Orig. art. has: 5 figures, 3 formulas, and 1 table.

Card 2/3

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AP4043356

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 24Feb64 ENCL: 00

SUB CODE: SS NR REF SOV: 004 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A.E.; YELISEYEV, P.G.; NAKHODNOVA, I.A.; ORMONT, A.B.; OSADCHAYA, L.A. STUCHEBNIKOV, V.M.

Radiative recombination in p - n-junctions in GaAs produced by beryllium diffusion. Fiz. tver. tela 6 no.6:1900-1902 Je '64. (MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A.E.; YELISEYEV, P.G.; ORMONT, A.B.; OSADCHAYA, L.A.; STUCHEBNIKOV, V.M.

Structure of coherent radiation spectra from GaAs p - n-junctions. Fiz. tver. tela 6 no.6:1908-1910 Je '64. (MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, A.E.; TALAT, G.Kh.

Kinetics of the field effect on a silicon surface. Fiz. tver. tela 6 no.8:2369-2375 Ag '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 58406-65

ACCESSI[illegible]R: AP5017331

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. [illegible]
[illegible]iversity)

SUBMITTED: 15Feb65 ENCL: 00 SUB [illegible]

NO REF SOV: 001 OTHER: 001 ATD [illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 64154-65

ACCESSION NR: AP5020743

AUTHOR: Moskovskiy gosudarstvennyy universitet, M[illegible]
(Moscow State University, Physics Faculty)

SUBMITTED: 20Jul64 ENCL: 00

NO REF SOV: 006 OTHER: 00[illegible]

Card 1/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

Card 1/2

L 65065-65

ACCESSION NR: AP5019888

as did the influence of additional illumination on the Hall effect. [illegible] bility went through a maximum with increasing light intensity. The [illegible] ulated current was observed only when the conductivity was lower [illegible] It is concluded that the electric conductivity of the material is [illegible] deep acceptor levels, with the donors and acceptors strongly [illegible] density was 5--8 orders of magnitude lower than the impurity [illegible]

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AT5020046

AUTHOR: Yunovich, A. E.; Anokhin, B. C.; Leystner, L.

TITLE: Some electrical properties of the natural surface

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya [illegible] v poluprovodnikakh (Surface and contact [illegible]). Tomsk, Izd-vo Tomskogo univ., 1964, 22-33

TOPIC TAGS: germanium semiconductor, dendrite, [illegible], electric property

ABSTRACT: Surface conductivity and [illegible] of surface of germanium dendrites as a function [illegible] and some data are obtained on the relationship between [illegible] in these dendrites. Specimens of p-germanium with [illegible] were studied. Two pieces of glass were used to press the [illegible] dendrites. Semitransparent tin oxide electrodes were applied [illegible] glass side. The external field was applied to these electrodes [illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

AP ESCRIPTION NR: AT5020006

coating on the glass. The capacitance of the metal emitter [illegible] measured by an ac bridge with an accuracy of [illegible]. Dendrites are [illegible] for studying electrical surface properties in view of the [illegible] volumetric properties. It is shown that the velocity of surface [illegible] the natural surface of germanium dendrites is high [illegible] of the order [illegible] the other hand the recombination rate on etched surfaces is appr[illegible] than 20[illegible] cm/sec). The concentration of fast surface states [illegible] of the dendrites is greater by an order of magnitude than on [illegible] surface. The lifetimes of the non-equilibrium current carriers [illegible] as regions which correspond to different stages in the growth [illegible] crystals. There is a surface layer about [illegible] which where [illegible] considerably shorter than in the other regions of the [illegible] the central part of the dendrite is rather [illegible] of the [illegible] It is recommended that future experiments with dendrites [illegible] with a check on uniformity in resistivity and lifetime. Orig[illegible] table.

AFFILIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACCESSION NR: AT5020446

State University)

SUBMITTED: 06Oct64 ENCL: 00

NO REF SOV: 003 OTHER: 007

Card 3/3

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 3632-66 EWA(k)/FEL/EWT(1)/... -2/T/EWG(k)/EWA(...

ACCESSION NR: AP5021358

AUTHOR: Yeliseyev, P. G.; Yunovich, A. E.

TITLE: The production of semiconductor lasers

SOURCE: Pribory i tekhnika eksperimenta, n...

TOPIC TAGS: semiconductor lasers, ...

ABSTRACT: Cleavage ... lasers from semiconductor ... basic advantages offered ... encountered during the application ... of certain peculiarities of ... the diffusion direction. The experimental ... the authors have been published earlier. "The authors thank ... Poltoratskiy, I. A. Osadchey, V. M. Stuchebn... for useful discussions and help during the study ...

Card 1/2

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L [illegible]

ACCESSION NR: AP5021358

ASSOCIATION: Fizicheskiy fakul'tet MGU (Physics [illegible])

SUBMITTED: 10 July 64 ENCL: [illegible]

NO REF SOV: 001 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ATC NR: AP5006844

AUTHOR: Ormont, A. B., Feltoratsky, I. A. [illegible]

ORG: Moscow State University im. M. V. Lomonosov [illegible] versitet)

TITLE: Low-current radiative recombination [illegible]

SOURCE: Fizika tverdogo tela, v. 8, no. 1, [illegible]

TOPIC TAGS: semiconductor diode, gallium arsenide, radiat[illegible] beryllium, zinc, pn junction, emission [illegible]

ABSTRACT: The authors compare[illegible] produced by diffusion of [illegible] tion of 10^{16} [illegible] 10^{18} [illegible] The measur[illegible] 188 and 200°K and current density [illegible] showed maxima with energies of [illegible] of these maxima depend on the dopant concentration [illegible] method used for probing the pn [illegible]

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ACC NR: AP6006844

peak is a linear function of the [illegible]
purity concentration [illegible]
tionship is found between [illegible]
of the diode. The authors are [illegible]
the results, to [illegible] Mayliev for [illegible]
assistance with the experiments. [illegible] art [illegible]

SUB CODE: 20, 09/ SUBM DATE: [illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 31162-66 EWT(1)/T/EWA(h) IJP(c) AT
ACC NR: AP6006813 SOURCE CODE: UR/0181/66/008/002/0353/0355

AUTHOR: Kul'sreshta, A. P.; Yunovich, A. E.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudrastvennyy universitet)

TITLE: High-voltage current oscillations in a GaAs semi-insulator

SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 353-355

TOPIC TAGS: gallium arsenide, semiconductor material, thermal excitation, electromagnetic oscillation

ABSTRACT: Persistent current oscillations were observed in p-gallium arsenide semi-insulators at high voltages during studies of thermally stimulated currents in these crystals. The oscillations were observed throughout the entire temperature interval from 77 to 350°K. These oscillations show up in the negative section of the current-voltage characteristic when the electric field intensity reaches a threshold value of approximately 200 v/cm. The oscillations were sinusoidal, sawtoothed or of a more complex relaxation type. Curves for the amplitude as a function of voltage first show an increase, and then a reduction to zero with a strong increase in

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L 31162-66

ACC NR: AP6006813

current. The period of the oscillations varies from a few dozen microseconds to hundreds of milliseconds depending on the temperature, the applied field, and the intensity and spectral composition of the incident light. Measurements showed that the distribution of the electric field along the specimen is weakly nonhomogeneous in the case of weak fields and strongly nonhomogeneous in fields close to the oscillation threshold. The maximum field was always observed at the anode with an increase in field intensity at the cathode also, although not as strong. The strong region of the field close to the anode was especially sensitive to light. The maximum amplitude was observed at an energy of approximately 1.23 ev which corresponds to a wavelength of a little greater than one micron. The oscillations are associated with the same traps which are responsible for thermally stimulated currents. In conclusion the authors take this occasion to express their sincere gratitude to V. S. Vavilov for valuable consultation. They also thank V. A. Goryunov for assistance with this work. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 16Jun65/ ORIG REF: 006/ OTH REF: 005

Card 2/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 45327-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW/JG/AT

ACC NR: AP6026078 SOURCE CODE: UR/0181/66/008/008/2330/2335

AUTHOR: Vavilov, V. S.; Nakhodnova, I. A.; Silin', A. R.; Yunovich, A. E.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Radiative recombination of GaSb p-n junctions obtained by crystal pulling from a melt

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2330-2335

TOPIC TAGS: gallium antimonide, single crystal growing, recombination spectrum, crystal donor, crystal impurity, pn junction

ABSTRACT: P-n junctions in single crystals of GaSb were obtained by growing a crystal on a seed containing a donor (Te) (or acceptor) impurity from a melt alloyed with an acceptor (Zn, Cd) (or respectively donor) impurity. The crystals were grown in a hydrogen atmosphere. The seeds were oriented along the direction <111>. Primary attention is devoted to the dependence of the radiative recombination spectra on the concentration of impurities in the area of the p-n junction and on the injection level. In particular, low excitation levels (current density of about 1 a/cm^2) were investigated. The dependence of energy at the emission spectral peak on the voltage across the p-n junction was observed at small currents and large concen-

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ACC NR: AP6026678

trations of impurities. This dependence is apparently due to the tunnel effect, including electron transitions to the "tail" of the density curve of the states of the conduction band. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 27Dec65/ ORIG REF: 004/ OTH REF: 009

Card 2/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACC NR: AP6015490 (N) SOURCE CODE: UR/0181/66/008/005/1608/1612

AUTHOR: Angelova, L. A.; Vavilov, V. S.; Yunovich, A. E.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Radiative recombination in GaP during excitation by electric current and by electron beam

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1608-1612

TOPIC TAGS: gallium base alloy, semiconductor research, radiative recombination, gallium arsenide

ABSTRACT: Single crystals of GaP grown non-stoichiometrically with an electron concentration of $1 \cdot 10^{16}$ cm^{-3} and a mobility of 126 $cm^2/v \cdot sec$ were excited by a 75 kev electron beam. The spectra of these non-alloyed n-type crystals were recorded by a ZMR-3 spectrograph and a FEU-28 photomultiplier. Radiative recombination at 77 and 15°K was investigated in the current density range $7 \cdot 10^{-3} < j < 6$ a/cm^{-2}. The excitation level was $2 \cdot 10^{23}$ sec^{-1} $cm^{-3} < g < 2 \cdot 10^{26}$ $cm^{-3} \cdot sec^{-1}$. Within the limits of the measurement errors, the obtained phonon energy values coincided with data obtained by other researchers, e. g., $LO = 0.049 \pm 0.002$ ev, $AC = 0.014 \pm 0.002$ ev. Specimens of GaP obtained by epitaxial growing of GaP and GaAs with an electron concentration of $1.7 \cdot 10^{18}$

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ACC NR: AP6015490

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and $3.6 \cdot 10^{15}$ cm^{-3} were also examined at 77°K. In the 5500-9500 Å range, a broad spectrum with a maximum at 7200-7300 Å was obtained. Compared to the material obtained from the melt, the radiative intensity of epitaxially grown GaP was smaller by approximately two orders of magnitude. Data obtained from a microscopic analysis of luminescent diodes prepared from alloyed GaP showed that the life span of holes injected in the *n*-range is $2 \cdot 10^{-7}$ sec. The work on electron excitation of GaP was carried out in the Laboratory of Semiconductors of FIAN. The authors thank G. P. Golubev, V. S. Mashtakov and E. L. Nol'le of the laboratory for assisting in the work. The authors also thank A. Ya. Nashel'skiy, V. P. Maslov and A. V. Lishina for making the specimens available and G. N. Galkin for his assistance in the work. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 11Nov65/ ORIG REF: 002/ OTH REF: 004

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APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACC NR: AP6037055 SOURCE CODE: UR/0056/66/051/005/1292/1305

AUTHOR: Yunovich, A. E.; Ormont, A. B.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: On tunnel radiative recombination in p-n transitions

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1292-1305

TOPIC TAGS: pn transition, radiative recombination, recombination radiation, tunnel effect

ABSTRACT: The mechanism of interband radiative recombination in a strong electric field of a p-n transition was investigated for the case when the electrons and holes penetrate the potential barrier as the result of the tunnel effect. Luminescent diodes made of GaAs, InP, and GaSb semiconductors were used for the investigation. For these specimens the maximum of the valence band and the minimum of the conduction band are in the center of the Brillouin zone and the optical interband transitions proceed with the conservation of quasimomentum. The concentration of carriers in the initial semiconductors was (1 to 2) x 10^{18} cm^{-3}. The thickness of the space-charge layer in selected diodes was 300 to 600 Å. The characteristic area of the p-n junction was 3 x 10^{-3} cm^2. The radiation intensity I as a function of quantum energy $\hbar\omega$ and applied voltage U was calculated for a uniform field and simple parabolic bands.

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ACC NR: AP6037055

The occupation probability of states in a semiconductor which has degenerated on both sides of the p-n junction was considered. An experimental investigation was made of the emission band $I(\hbar\omega)$ associated with the tunnel effect for p-n transitions in GaAs, GaSb, and InP. The position of the emission band peak $(\hbar\omega)$ varied with voltage in a manner which had been predicted by the theory. The discrepancy between the experimental data and the calculations is attributed to the participation of the "tails" of the state density and local centers in tunnel recombination; the excess current in tunnel diodes is attributed to a similar cause. The author thanks V. L. Bonch-Bruyevich, V. S. Vavilov, and L. V. Keldysh for discussing the results and for their advice; E. A. Poltoratskiy and V. M. Stuchebnikov for the GaAs diodes; A. R. Silin' for the GaSb diodes; and P. G. Yeliseyev and I. Ismailov for the InP diodes. Orig. art. has: 17 formulas and 5 figures.

SUB CODE: 20/ SUBM DATE: 27May66/ORIG REF: 014/ OTH REF: 017/ ATD PRESS: 5107

Card 2/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ACC NR: AP6036992 (A,N) SOURCE CODE: UR/0181/66/008/011/3383/3386

AUTHOR: Yeliseyev, P. G.; Ismailov, I.; Ormont, A. B.; Yunovich, A. E.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Physics Institute im. P.N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut)

TITLE: Spontaneous radiative recombination in InP p-n junctions at low currents

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3383-3386

TOPIC TAGS: indium compound, phosphide, pn junction, radiative recombination, emission spectrum, volt ampere characteristic, tunnel effect, line shift, temperature dependence

ABSTRACT: The authors investigated the emission spectra and the volt-ampere characteristics of diffusion p-n junctions in InP at 9, 77, and 300K, at current densities up to 10^2 a/cm^2. Data are presented on the emission of strongly doped InP p-n junctions at a weak injection level, and the presence of several emission bands as demonstrated, including one which is undoubtedly connected with the "diagonal" tunneling of electrons through the p-n junction, similar to that occurring in GaAs diodes. The samples were made from large-block polycrystals of InP, doped with tellurium, and the p-n junctions were produced by diffusion of zinc at 750C. Two groups of samples were prepared, with slightly different volt-ampere characteristics. The emission spectra exhibited three bands, connected with the different transitions which are tentatively identified. The widths of the emission lines are estimated and

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ACC NR: AP6036992

the temperature dependence of the line shift is given. One of the bands is connected with "diagonal" tunneling occurring at small forward bias on the junction (from 0.9 to 1.3 volts at 77K). With increasing voltage (1.35 - 1.40), a strong emission band appears with quantum energy much smaller than the width of the forbidden band, which predominates at high excitation levels and depends little on the current. In addition at 1.2 - 1.4 v a weak band appears, due to radiative transitions to a deep level, with a quantum energy near 1.0 ev. All these processes are similar to those described in the literature for GaAs diodes. The authors thank A. Ya. Nashel'skiy and S. V. Yakobson for supplying the InP crystals. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 19May66/ ORIG REF: 003/ OTH REF: 005

Card 2/2

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

L 17925-63 EWT(1)/EWG(k)/BDS AFFTC/ASD/ESD-3/[illegible]
ACCESSION NR: AP3002447 [illegible]

AUTHOR: Yu[illegible]ch, A. E.

TITLE: Kinetics of surface phenomena in semiconductors [illegible] of wafers (Report at the Conference on [illegible] Institute of Electrochemistry, AN SSSR, Moscow, [illegible])

SOURCE: Poverkhnostnye svoystva poluprovodnikov [illegible] 1963.

TOPIC TAGS: semiconductor, semiconductor surface [illegible] effect potential

ABSTRACT: A theory of kinetics of the effect [illegible] -type semiconductor [illegible] It is proven that when [illegible] radiation, a linear conductivity-time relation [illegible] space-charge layer; the [illegible] layer. A new method is suggested [illegible] measure of the field effect. The [illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, B. M.

O differentsirovanii absolyutno additivnykh funktsii mnozhestv. DAN, 30 (1941), 112-114.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

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L 35[illegible]-65 ENG(j)/ENT(m)/E[illegible]/EPB/ENP(t)/ENP(b) Pr-4 [illegible]

ACCESSION NR: AP5008519 S/0[illegible]

AUTHOR: Yunovich, E. M.; Salov, B. S.

TITLE: A method for preparing liquid oxygen or nitrogen from [illegible] No. 169082

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. [illegible]

TOPIC TAGS: liquid oxygen, liquid nitrogen

ABSTRACT: This Author's Certificate introduces a method for [illegible] oxygen or nitrogen from air by a medium pressure process, using [illegible] compression and expansion of the air. The expansion takes place [illegible] compressed-gas turbodynamo until the pressure of the upper [illegible] reached. The product is taken off after the first stage at the pr[illegible]

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

ASSOCIATION: none

SUBMITTED: 07Feb61 ENCL: 00

NO REF SOV: 000 OTHER: 000

Card 1/1

YUNOVICH, I. M.

Technological and economic substantiation of the plan according to the growth of labor productivity by basic factors. Vest. mashinostr. 42 no.12:74-77 D '62. (MIRA 16:1)

(Labor productivity)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

SANKIN, D.I., kand. ekon. nauk; SEMINOY, S.I., kand. ekon. nauk; BEREZNOY, N.I., kand. ekon. nauk; ZHDANOV, A.I., kand. ekon. nauk; GORCHAKOV, A.A., inzh.; ZAKHAROV, V.V., inzh.; YUNOVICH, I.M., inzh.; RYVKIN, A.S., inzh.; KOVRIGIN, V.V., ekonomist; DIDENKO, S.I., kand. ekon. nauk; SANDOMIRSKIY, A.T., ekonomist; GONCHARENKO, B.L., kand. ekon. nauk; KOTOV, V.F., inzh.; EYDEL'MAN, B.I., red.

[Handbook for the economist and planner in an industrial enterprise] Spravochnik ekonomista i planovika promyshlennogo predpriiatiia. Moskva, Ekonomika, 1964. 698 p. (MIRA 17:6)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, L. and EYVAZOV, B. A.

"Concerning the Application of Radioactive Phosphorus in Dermatology" a report presented at the Transcaucasian Radiological Conference, Tbilisi, 28-31 Oct 55.

Sum. No. 1047, 31 Aug 56

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, L.K.

BYVAZOV, B.A.; YUNOVICH, L.K.

Cure of some chronic skin diseases with hydrosulfide water from a spring in the Stalin district of Baku. Dokl.AN Azerb. SSR 10 no.12:885-891 '54. (MLRA 8:10)

1. Predstavleno deystvitel'nym chlenom Akademii nauk Azerbaydzhanskoy SSR A.I.Karayevym.
(Baku--Mineral waters) (Skin--Diseases)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

KAZAKOV, N.I., gornyy tekhnik; YUNOVICH, M.I., gornyy inzh.; KUDRYAVTSEV, Yu.I., gornyy inzh.; SMOLDYREV, A.Ye., kand.tekhn.nauk; MARKOV, Yu.A., gornyy inzh.; KURBATOV, A.K., gornyy inzh.

Study of the operation of a hydraulic hoist in the "Belkina-Ventilyatsionnaya" Mine. Gor. zhur. no.6:43-47 Je '62. (MIRA 15:11)

1. Leninogorskoye shakhtostroyupravleniye (for Kazakov).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy metallurgii, Ust'-Kamenogorsk (for Yunovich, Kudryavtsev).
3. Institut gornogo dela im. Skochinskogo, Moskva (for Smoldyrev, Markov, Kurbatov).
(Leninogorsk region (East Kazakhstan Province)—Mine hoisting)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, M.M.

A friend of science. Zdorov'e 3 no.3:20-21 Mr '57 (MIRA 10:4)
(GOR'KII, MAKSIM, 1868-1936)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVICH, YE.M.

AUTHOR: Yunovich, E.M., Consulting Engineer 67-6-22/23

TITLE: Reply to Enquiries Made by the Reader, Comrade Yachmennik, Groznyy (Otvety chitatelyam. Tov. Yachmenniku g. Groznyy)

PERIODICAL: Kislorod, 1957, Nr 6, pp. 43-43 (USSR)
Received: April 7, 1958

ABSTRACT: The reader reports that he is in charge of an oxygen station "KG-30", which is able to produce 50 l liquid air or nitrogen daily in winter, and only about 20 l in summer; the quantity in demand is, however, 120 l per day; in reply to the question whether the existing plant can be reconstructed in order to be able to meet existing demands, the reader is recommended to provide for a device for additional air cooling. The following two possibilities exist: 1.) To make use of the ammonia- or Freon cooling plant for 20-30° C, which requires a reconstruction of the heat exchange system. 2.) The application of a piston "Detanders" (an engine driven by compressed gas). This supplementary device is produced by the "Uralkompressor" works, and no special reconstruction is necessary in order to connect it to the aforementioned existing plant. The efficiency may be increased up to 60 nm^3/h, if the plant

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Reply to Enquiries Made by the Reader, Comrade Yachmennik, Groznyy.

67-6-22/23

works on the basis of the high pressure principle. At a pressure of 200 atmospheres excess pressure the production of 20-25 l/h liquid oxygen or 15 l/h liquid air or nitrogen would be possible by means of this combination. The necessary work can be carried out by the station's own staff (without the help of specialists). The necessary instructions are available from "Giprokislorod" (Moscow, Zh-4, Ulyanovka 49). There is 1 figure.

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Card 2/2

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVIDOV, A.P. (Shchuchinsk, Kokchetavskaya obl.)

Ice packs. Priroda 51 no.12:123-124 D '62. (MIRA 15:12)
(Virgin Territory--Ice on rivers, lakes, etc.)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVIDOV, A. P.

Forest Ecology

On the knowledge of intraspecies interaction in the forest. Les. khoz. 5 no. 8, 1952

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YONCVILE V, M.B.
~~A. IUNOVIDOV~~

"Reciprocal relationships within the species in forests." Page 30 (ANALELE ROMANO-SOVIETICE. SERIA SILVICULTURA-INDUSTRIA LEMNULUI SI A HARTIEI Series A ..., v. 3, no. 1, Jan./Feb. 1953, Bucuresti.)

SO: Monthly List of East European Accessories, Library of Congress, Vol. 2, No. 10, Oct. 1953, Uncl.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVIDOV, A. P.

Yunovidov, A. P.

"Material on the study of the biology of common pine under the conditions of the mountainous forests of the Kokchetav upland." Min Higher Education USSR, Kazakh State Agricultural Inst. Alma-Ata, 1956. (Dissertation for the Degree of Candidate in Biological Sciences).

So: Knizhnaya letopis'
No. 25, 1956. Moscow

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNGVIDOV, A.P.

Interrelations between the forest and the steppe in the northern part of the peneplain of Kazakhstan. Bot.zhur. 48 no.2:240-245 F '63. (MIRA 16:4)

1. Kazakhskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva, g. Shchuchinsk Kokchetavskoy oblasti.
(Kokchetav Province--Forest ecology) (Kokchetav Province--Steppes)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNOVOV, P. S., and MUSHIN, V. G., FEDOTOV, A. I., SHARABRIN. I. G.

Vet in Research Laboratories (Diagnosis), Moscow, 1953

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNSALIYEV, B.M.

3-10-4/30

AUTHOR: Yunsaliyev, B.M., Professor, Rector of the Kirghiz State University

TITLE: The Scientific Potential of Kirghiz Vuzes is Increasing (Rastut nauchnyye sily vuzov Kirgizii)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 10, pp 17-22 (USSR)

ABSTRACT: The author describes the development of the educational system in Kirghizia during the post-revolutionary period. In 1914/15 there were only 107 schools and 7,000 pupils. By 1928/29 this figure had increased to 547 schools and 47,500 pupils.

A series of educational institutions was created. The most important of these is the Kirghiz University, opened in 1951, which has 7 faculties: physico-mathematics, biology, philology, history, geography, economics and jurisprudence, and foreign languages. It has a student body of 2,500. Scientific-pedagogic cadres for 17 specialties are trained here. The university has 32 chairs and 240 teachers, of whom 94 are professors or dotsents. The author mentions some famous names such as: K.K. Yudakhin, B.D. Dzhamgerchinov, and I.G. Druzhinin (Regular members of the Kirghiz

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SSR Academy of Sciences); G.A. Yevtushenko and K.K. Sartbayev (Member-correspondents of the Kirghiz SSR Academy of Sciences); professor F.A. Turdakov (Doctor of Biological Sciences); professor O.L. Vaynshteyn (Doctor of Historical Sciences); professor F.I. Frankl (Doctor of Physico-Mathematical Sciences); professor M.S. Dzhunusov (Doctor of Philosophy) and professor M.I. Yefimov. A number of chairs conduct scientific research work. The mathematicians headed by dotsent Ya.V. Bykov devote special attention to the theory of integro-differential equations. The chair of physics headed by professor F.I. Frankl investigates problems of gas dynamics. The theory of equations of mathematical physics, hydrodynamics of hydro-plants etc. were dealt with by the dotsents L.V. Tuzov, K. Chadayev, R. Usubakunov, L.A. Spektorov. Investigations relating to the exploitation of Kirghiz natural resources are conducted by the geographic section. There are also famous historians such as professor B.D. Dzamgerchinov; the dotsents B.E. Elebayev, A.Kh. Khanasov; the candidates of sciences K. Usenbayev, S.I. Il'yasov, A.A. Arzymatov, Sh.K. Kyadrov and others. The chair of the Kirghiz Language is headed by professor K.K. Yudakin, while professors I.A. Batmanov and K.K. Sartbayev and dotsent

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Dzhakubov are working on Kirghiz grammar. On the whole there are 120 scientific themes treated at this university. Great attention is devoted to the training of Kirghizes. More than 30 candidates of sciences were trained during the last 5 - 6 years. K. Chadayeva was the first Kirghiz woman to defend a dissertation for candidate of physical and mathematical sciences.

The Kirghiz Institute of Agriculture imeni Skryabin, another important vuz in this republic has 5 faculties: agronomy, zoology-veterinary, agrotechnics, hydromelioration, and mechanization and electrification of agriculture. The institute has 1,560 students, 27 chairs and more than 100 professors, dotsents and teachers. The author mentions some important personalities such as A.A. Volkova (Regular member of the KSSR Academy of Sciences); M.N. Luchikhin (Member-correspondent of the same Academy and of VASKhNIL); the professors A.P. Kil'chevskiy, D.Ya. Mikhaylov, A.Ya. Pankratov, S.I. Ivanov; the dotsents A.A. Aldashov, Kh.B. Bekbulatov, B.B. Bukanbayev.

The Kirghiz Medical Institute, founded in 1939, has 200 professors, dotsents and teachers, 1,750 students, and 3 faculties. The author mentions some well known medical

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scientists among the teaching staff such as member-correspondent of the Academy of Medical Sciences and regular member of the Kirghiz SSR Academy of Sciences I.K. Akhunbayev; member-correspondent of the Kirghiz SSR Academy of Sciences K. Ryskulova; the professors B.F. Malyshev, A.L. Brudnyy, M.E. Vol'skiy, I.M. Klavdiyenko; professor A.N. Kruglov, a surgeon; and the dotsents S.P. Daniyarov. Z.I. Igemberdiyev, I.A. Sherov, A.A. Aydaraliyev, A.F. Yakovlev, V.A. Isabayeva, N. Bulatova and M.T. Nanayeva. There are 15 clinics attached to the chairs of this institute.

The Frunze Polytechnic Institute is continuously expanding, where 1,050 engineers are being trained in 4 faculties (Mining-geology, construction engineering, mechanical engineering and technology). Evening courses were organized where 200 students, working in industrial enterprises, are trained.

The Pedagogic Institute imeni Frunze is an important institution, which in 1941 already had a students' body of 1,540 persons and 16 chairs. Research work on Kirghiz fauna, flora and problems connected with biology and natural sciences are being carried out at this institute. The author mentions dotsent D.P. Stepanenko, professor G.A. Yevtushenko

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The Scientific Potential of Kirghiz Vuzes is Increasing 3-10-4/30

and dotsent A.G. Golovkova as members of its staff.

The Kirghiz Branch of the USSR Academy of Sciences was opened in 1943.

A pedagogic institute for female teachers, where 728 girls are being trained, graduated in 1956/57 245 teachers. The Institute of Physical Culture was founded in 1955.

As a result of the cultural development, the Khirgiz higher educational institutes graduated during the last 25 years a total of 22,000 qualified specialists including 17,400 teachers, more than 2,000 physicians, more than 2,000 agronomists. Kirghizia's 10 vuzes have on their teaching staffs 45 doctors and 390 candidates of sciences and a student body of 14,000 students.

ASSOCIATION: Kirgizskiy gosudarstvennyy universitet (Kirgiz State University)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

RAZUMOVA, L.L.; YUNTS, V.M.

Some structural features of different muscles detected with the aid of the distribution curves of X-ray scattering intensity. Dokl. AN SSSR 141 no.5:1220-1223 D '61. (MIRA 14:12)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom V.N. Kondrat'yevym.
(MUSCLES—RADIOGRAPHY)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

KALININ, M.M.; YUNTSON, M.A.

Experience with using the clarifiers produced by the All-Union Scientific Research Institute of Hydraulic and Sanitary Engineering of the Ministry of Construction at the Petrograd Station of the Leningrad Water Supply System. Vod.i san.tekh. no.4:4-6 Ap '56. (MLRA 9:8)

(Leningrad--Water--Purification)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

GLADKOV, A.M.; YUNTSON, N.A.

Operation of clarifiers with reduced coagulation doses. Vod. i san. tekh. no. 7:31 Jl '58. (MIRA 11:7)
(Water--Purification)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNUSKHANOVA, ~~Ch. Ch.~~ Kh. Kh. Cand Med Sci -- "On the evaluation of the herniotomy operation according to Girard-Kimberovskiy in the light of immediate and remote results." Tashkent, 1961 (Min of Health UzSSR. Tashkent State Med Inst). (KL, 4-61, 212)

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

NIKULIN, Anatoliy Sergeyevich; SMIRNOV, Aleksandr Sergeyevich; YUNUSOV, Al'bert Gamzatovich; MASLOV, A.V., prof., red.

[Methodological instructions on organizing and conducting initial field training in surveying] Metodicheskie ukazaniia po organizatsii i provedeniiu pervoi uchebnoi geodezicheskoi praktiki. Moskva, Nedra, 1965. 115 p. (MIRA 18:11)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNUSOV, A.I.

"Some features of water and salt metabolism and its regulation in a hot climate."

Report submitted, but not presented at the 22nd International Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

SUB CODE: HP

Card 1/1

YUNUSOV, A. YU.

Perspiration

"Physiological characteristics of sweating in children." Reviewed by G. V. Arkhangel'skiy Pediatriia no. 2, 1952

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0"

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

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"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001963120018-0

YUNUSOV, A.Yu., akademik

Distribution of radioactive phosphorus in organs of animals under conditions of water deficiency. Izv. AN Uz. SSR no.5:73-79 '56. (MIRA 12:5)

1.AN UzSSR.

(Water in the body) (Phosphorus--Isotopes)

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